Aalto University
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MEASURING THE DIGITAL CUSTOMER EXPERIENCE OF THE FINNISH TAX ADMINISTRATION'S E-SERVICES

Bachelor's Thesis

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Abstract

Digital customer experience is a constantly emerging topic with close to every interaction between the customer and the organization being possible to happen online. With a government facilitated organization such as The Finnish Tax administration, traditional customer experience metrics rarely are directly applicable. This thesis aims to define a suitable perception for what digital customer experience means in such context and how should it be measured. With extensive literature review, certain service quality dimensions were identified, to form metrics to attain an overall view of the customer experience. Empirical research was then conducted, putting the dimensions to practice and gathering relevant data to evaluate the feasibility of the proposed metrics. This thesis can potentially be used as a base for more in-depth research regarding any of the identified customer experience dimensions, or to create an even more accurate model for the measurement of digital customer experience in e-governance environments.

Keywords Customer Experience, E-governance, Service Quality, Digital Services, E-services, CX

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1 Introduction

A positive customer experience is something that the most successful companies have held to a high degree for a long time already. However, nowadays the customer experience itself has changed. It is possible to complete your whole customer journey without ever being in a physical contact with the company you are doing business with. The age of digital customer experience is alive and well, while being more relevant than ever. The Finnish Tax Administration has also brought almost every service they provide to a digital platform but has not yet been measuring the customer experience of these digital customers.

1.1 Background

This thesis was conducted in a mutual agreement with the Finnish Tax Administration. The Finnish Tax Administration (FI: Verohallinto) is the organization responsible for all the tax collection in Finland, collecting a total of 70 billion of tax revenue in 2019 alone. In the past years, they have moved a lot of their services to be available digitally, mostly centered around MyTax/OmaVero, which enables the citizens and businesses to file their taxes annually and do almost everything tax related online. The Finnish Tax Administration also has a number of other e-services where in some of them they are co-operating with other providers, notable other services include but are not limited to; different kinds of tax calculators and registers, Palkka.fi, Ilmoitin.fi and Suomi.fi-service. Their main website vero.fi offers all the required tax information in Finland, as well as provides digital customer service through a chat.

The Finnish Tax Administration has not yet been measuring their customer experience significantly. They have conducted some 'attitude' surveys by phone interviews which measured the citizens' feelings and opinions towards taxes and the administration in general, as well as some text message surveys, but those have been related only to the calls that the customer service has received.

1.2 Research objectives

Since the Finnish Tax Administration has not yet found a suitable way to measure their digital customer experience, the primary objective was to research how customer experience could be measured in its case. The purpose was then to apply this knowledge to suggest a suitable measurement method for the Finnish Tax Administration. The secondary objective was to then test this method with a small empirical research.

Finally, through the empirical research, the goal was then to be able to find possible areas of improvement in the digital customer experience of the Finnish Tax Administration. Identifying the areas which need improvement could ensure an overall positive customer experience for their digital customers in the future, given that appropriate actions for the improvement would be taken. This is directly linked to their official strategy (positive customer experience), which was a decisive factor on ending up with this specific goal.

1.3 Scope of research

This thesis will focus on solely digital customer experience, which means that a lot of literature on traditional customer experience was either completely excluded or only partially applied for the research.

1.4 Structure of the research

The rest of the thesis is structured as follows. Chapter 2 reviews previous literature related to the various concepts of customer experience and related areas that are necessary for the purposes of this thesis. Through the literature review, it also defines dimensions and methods for measuring the customer experience in order to create a base for empirical analysis. In the third chapter, the methodology of the thesis is discussed and presented. In the same chapter, the gathered data with the results of the conducted customer survey about the digital customer experience (CX) of the Finnish Tax Administration is also presented. In the final chapter, a conclusion of the thesis is presented, while also addressing the possible limitations and the room for future research.

2 Literature review

In this chapter, various academic literature as well as other suitable articles were reviewed regarding digital customer experience and later on service design, which was found to be a valuable variable in defining customer experience.

2.1 What is (digital) customer experience?

To fully be able to understand the scope of the research, we must first define what does customer experience (often abbreviated as CX) mean in this context. Morgan (2017) argues, that customer experience consists of a lot of different variables, but most of all it boils down to the perception the customer has of the brand. She continues to highlight that even though an organization might excel at one area, if it struggles in others the customers can end up with an overall poor experience. Bordeaux (2019) has a similar approach, stating that customer experience is the impression the customer is left with, affecting the brand image on every stage of their customer journey. Morgan's and Bordeaux's insights are a good starting point but are very close to the definition of brand image, which is why for the purpose of the research a more concrete definition must be set. Websites such as Gartner and Ameyo also mention perception as a key element of customer experience, but also highlight the interactions with the organization as the second key factor defining customer experience. In addition, Meyer and Schwager (2007) define CX as 'the subjective and internal responses that customers have in any direct or indirect contact with a company'. From these insights the definition for digital customer experience for the purposes of this research is set at "How do the customers of the Finnish Tax Administration perceive the digital interactions with the organization, and what is the overall impression the customers have of its digital services".

However, in order to be able to measure such perception and impression, a more 'tangible' concept must be set. As seen, there is no consensus for the absolute meaning of the term 'Customer Experience' in the academic literature, which is also stated in other reports reviewing the topic (Klaus, 2014; Becker & Jaakkola, 2020; Bueno, Weber, Bomfim & Kato, 2019). Moreover, in relatively concrete terms, customer experience seems to be commonly labelled as consisting of mainly service quality and customer satisfaction, along with the aforementioned perception of the service (Klaus, 2014; Bueno et al., 2019). Service quality will serve as a key element in contributing to the defining of customer experience in this research.

2.2 Why focus on customer experience?

A positive customer experience is a part of the official strategy of the Finnish Tax Administration, but why is a positive customer experience an important metric for an organization? It's obvious that in a traditional business context, a positive customer experience leads to brand loyalty and recommendations, resulting in more sales and growth. Customer experience is argued to be a key driver in competitive advantage (Lemon & Verhoef, 2016). However as discussed, the Finnish Tax Administration is a government facilitated organization, with no clear product or sales revenue. So why should an organization like it care about its customer experience?

Some additional benefits of a positive customer experience include increased trust, engagement and even forgiveness (Parrish, 2019). Such outcome is logically positive for a government ran organization, as trusting the government and even forgiving it for possible mistakes is valuable. It is even possible that with an organization as relevantly attached to people's lives as the tax administration, the overall faith in the political system and the government can rise through successful CX. Parrish (2019) also brings up a good point that a better customer experience can also reduce the costs of the operations. Even though the Finnish Tax Administration has no clear sales revenue, it still has a lot of costs. A smooth customer journey and experience can also lead to less unnecessary interactions with the customer, saving resources and thus accumulating savings.

On the other hand, if the digital customer experience is smooth and positive, more citizens are also attracted to utilizing the possibility to file their taxes online or ask for help online. Various researches have found that in general, people value the conveniency of interacting with government services online instead of queuing at an office (Kumar, Sachan & Mukherjee, 2017; Osman, Anouze, Irani, Al-Ayoubi, Lee, Balc, Medeni & Weerakkody, 2014). From a previous study project with the Finnish Tax Administration, knowledge was gained that it would in fact prefer the scenario where every citizen would file their taxes online, for example. From these insights, the assumption that it would be beneficial to allocate resources on ensuring a positive digital customer experience seems justified.

2.3 How to measure customer experience?

What are the appropriate ways to measure actual customer experience? The difference in physical customer experience and digital customer experience needs to also be noted. Kumar, Sachan & Mukherjee (2017) found that the perceived service experience digitally with government services tends to be highly different in comparison to the traditional interaction with a customer service agent. Queuing up at the local tax office's line in comparison to asking for help in the customer service chat logically sound like vastly different experiences. This emphasizes the importance of measuring digital customer experience separately.

The literature suggests that in order to be able to measure customer experience, certain metrics for the actual measurement need to be determined (Meyer & Schwager, 2007; Bueno et al., 2019; Lemon & Verhoef, 2016; Yang & Fang, 2004; Domb, Sujata, Sanjay, Arindam & Jypti, 2015). Most of the studies and research seem to focus on creating a suitable framework or a model that propose these metrics, and then gather the actual data from the customers through surveys or interviews. Bueno, Weber, Bomfim & Kato (2019) conducted a systematic literature review, ultimately including 33 studies, and found that over half of the authors created new models or scales to measure customer experience, further on highlighting the fact that no consensus or standard exists amongst this area of research.

2.4 Adapting service quality metrics for measuring the CX

Through the review of literature so far it is set that, in this research, the main factor considered to directly affect the customer's perception of the digital services is the quality of the e-services, as quality is a broad term and can include most of the necessary variables affecting the CX. Measuring the service quality and through that, customer satisfaction, will be an important factor to grasp a view of the impression the customers have towards the Finnish Tax Administration's digital services.

The origins of measuring service quality come all the way from the SERVQUAL model, developed by Parasuraman, Zeithaml & Berry (1985), which is still to this day referred to in various academic research (Bueno et al., 2019). Although arguably outdated and not

directly applicable to digital services, it was used as a base for proposed instrument dimensions for measuring the quality of e-government services (Alanezi, Kamil & Basri, 2010). Through their study, Alanezi et al. (2010) reformulated the SERVQUAL and determined a total of 7 dimensions for measuring a government's e-service quality, which were validated by reviewing previous research and literature extensively to ensure their relevance. This study was exceptionally relevant for this research's purposes, as the majority of the studies on customer experience and service quality are based on traditional business and marketing instead of government facilitated services. Therefore, after reviewing the study, its seven dimensions were considered for this research as well to define suitable metrics for measuring the digital service quality of the Finnish Tax Administration. The dimensions Alanezi et al. (2010) found were as follows:

1. Website design
2. Reliability
3. Responsiveness
4. Security / Privacy
5. Personalization
6. Information
7. Ease of Use

To determine whether the proposed dimensions will be suitable for the Finnish Tax Administration's purposes, each dimension needs to be critically examined and evaluated.

2.4.1 Website design

In most cases of digital customer journeys, the website is the first link between the organization and the customer. On their study, Alanezi et al. (2010) found that the design of a website is a major factor affecting the customers' satisfaction. On the other hand, Yang & Fang (2004) also studied online customer satisfaction and mention website design *quality* which they further on divide into different metrics solely focusing on the website itself. In addition to that, through reviewing approximately 100 studies regarding website design, Garett, Chiu, Zhang & Young (2016) found several commonly appearing elements regarding effective website design. These elements included navigation, graphical representation, organization, content utility, purpose, simplicity and readability. As a dimension, website design thus seems to possibly be the most complex one. However, such in-depth analyzing of a single dimension seems attractive only if we were to focus on developing the actual website of Finnish Tax Administration.

Moreover, a poorly designed website may frustrate users and lead to less interactions and obviously worse customer experience overall. On the contrary, a well-designed website is suggested to lead to more revisits by the users (Garett et al., 2016). These insights show that it does seem likely that the website design dimension will be a valuable metric to consider when measuring the CX of the Finnish Tax Administration's customers.

2.4.2 Reliability

Reliability in this context is interpreted as the degree to which a promised digital service will perform by the promised time (Alanezi et al., 2010). Additionally, Parasuraman et al. (1985) also highlighted reliability as one of the most important dimensions in the original SERVQUAL model. Reliability for the Finnish Tax Administration's services could also mean the functioning of their customer service chat, the reliability that the amount of taxes or returns calculated is working in OmaVero/MyTax and getting a confirmation that your sent forms are delivered, to name a few examples.

2.4.3 Responsiveness

In contrast to reliability, Alanezi et al. (2010) define responsiveness as how helpful the e-government web site is and that there are no unnecessary delays in responding to citizens. In Finnish Tax Administration's case, responsiveness could mean how quickly a user is able to find desired information on the website, how quickly does the customer service chat respond and how the available forms function on the websites.

2.4.4 Security / Privacy

The security / privacy factor represents the protection and security of the personal information of the citizens using the digital services. On the original SERVQUAL model, one key dimension was 'Assurance' which referred to trust and feeling of security amongst the customers provided by an organization's employees (Parasuraman et al., 1985). However, on this e-service focused model Alanezi et al., (2010) replaced it by the 'Security / Privacy' factor, as in online environments the stress about the safety of a user's personal information is highlighted. Privacy concerns tend to have an effect on the online behavior and usage of digital services by individuals (Baruh, Secinti & Cemalcilar, 2017). This is a relevant dimension for the Finnish Tax Administration, as it naturally processes enormous amounts of personal and private information of every citizen of Finland. The metric will indicate if the users feel safe and protected when using the e-services.

2.4.5 Personalization

Since there is no direct physical human contact when using digital services, the empathy dimension from the original SERVQUAL model was also replaced. Personalization, which could also be labelled as customization refers to the ability of the e-government to provide services that meet the various needs of specific types of customers (Alanezi et al., 2010). Service personalization has also been found to correlate positively with customer loyalty and satisfaction (Tong, Wong & Lui, 2012). Personalization is an interesting dimension for the Finnish Tax Administration as well, since just the contrast between what kind of e-services would a millennial on his/hers first job need compared to an elderly person living on a pension is significant. This dimension will determine if the needs of the users are met within the services.

2.4.6 Information

This dimension consists of the information the government organization provides, mostly through their web site(s). Information should be up to date and accurate, yet easily understandable. Information plays a key role in how online users make decisions (Alanezi et al., 2010). For the Finnish Tax Administration, information is arguably one of the most important metrics, as taxes are a highly complex matter for most people. Poor treatment of information is likely to burden the customer service - whether it be people making mistakes in their tax filings or constantly asking for help - resulting in poor service quality through other dimensions as well. Information can easily overlap with other dimensions such as Personalization and Ease of Use to some extent, but the aim will be on focusing only on the actual information on the websites instead of usability, for example.

2.4.7 Ease of Use

Arguably somewhat related to the website design dimension, ease of use refers to exactly that; the ease of using the digital services. Much like website design, Alanezi et al. (2010) found ease of use to be one of the most significant metrics to affect customer satisfaction. Ease of use can include other factors in the e-services than just the website however, which validates it as a viable dimension for this research too, as the digital services of the Finnish Tax Administration cover considerably more than just a single website. This dimension should also reveal if the users are experiencing frustration when using the services.

After critically examining each dimension individually, their applicability for this research's purpose seems justified. These metrics were adapted and utilized to create the test survey, which will be introduced in the next chapter of this thesis.

3 Methodology

As already presented, the primary method for this thesis was a literature review on the relevant research, journals and other appropriate sources regarding the covered topic of customer experience and other complementary topics such as service quality. The review was critical on sources where the information presented was focused primarily on traditional business concepts like marketing and sales. This is due to the fact, that these are not directly applicable to the purpose of this thesis, which covers the Finnish Tax Administration, a government facilitated organization with no direct revenue or sales per se. The same goes for concepts which focus on traditional, physical customer experience, as the purpose of this thesis is to only analyse the digital side of the services. This is very important to highlight, as the actual available research on e-government or digital customer experience of government facilitated organizations is highly limited.

From the literature review, eligible dimensions and methods for customer experience measurement were determined and used as a base to create a customer survey to measure the digital customer experience of the Finnish Tax Administration. The customer survey was then sent to citizens of Finland through social media channels such as WhatsApp and Facebook. The survey results were then analysed before forming a conclusion. In order to get a sufficient enough sample size (i.e. making sure that enough people will bother to fill the whole survey), the questions on the final form had to be limited. Future research for more in-depth analysis is warranted as this survey primarily aimed to grasp an overview of the current state of the digital customer experience of the Finnish Tax Administration.

3.1 Survey as a research method

Survey as a research method has three main characteristics. First, it is used to quantitatively analyze a given population's specific aspects. The second characteristic is that the data collected through the survey is collected from people which makes the data subjective. Finally, survey research is used to select a portion of a population and then aims to generalize the results to be applicable to the whole population (Glasow, 2005). These main characteristics directly complement the purpose of this thesis which justified its usage as the research method over other methods such as interviews, for example. Glasow (2005) also highlights the strengths of surveys as being able to obtain information from large samples effectively, while additionally being well suited to gather

demographic data. On the other hand, Glasow (2005) suggests that the weaknesses of surveys are potential biases with lack of responses from desired participants and the inability to understand the historical context of a phenomena.

The key factors on choosing an online survey as the empirical research method for this thesis was both its efficiency and the cost. Gathering the data through a public link survey is very fast and free as Aalto University provides the access to Webropol for its students. An important note about online surveys in the perspective of the respondents is that it also generally saves time for them (Callegaro, Mandreda & Vehovar, 2015). This further on emphasizes the convenience of the survey as a method, as finding a large sample size of respondents for more time-consuming data gathering methods was not possible due to the limited scope of a Bachelor's Thesis.

3.2 The structure of the survey

The survey was conducted through Webropol in Finnish and as stated, shared as a public link through social media channels like WhatsApp and Facebook to potential respondents, with the goal being in attaining at least 100 responses. The channels that were used were mainly the researcher's own, but further sharing was encouraged to the recipients of the link. The survey was anonymous and consisted of 3 demographic questions after proceeding to 7 small matrix sections which included the set dimensions, with 18 questions in total. In the end, the respondent was asked to give an overall score ranging from 1 to 10 for his/her digital experience as the Finnish Tax Administration's customer. The matrix questions had claims, and the respondent was given a scale of 1 to 5 (1=Strongly disagree, 2= Slightly disagree, 3= Not sure, 4= Slightly agree, 5= Strongly agree) to reflect his/her opinion on the matter. From the received answers, a score for each dimension was attained by calculating the average of the given scale. The survey questions are visible on the figures on the next section which presents the results. Additionally, the full survey form is presented in the Appendices section at the end of the thesis.

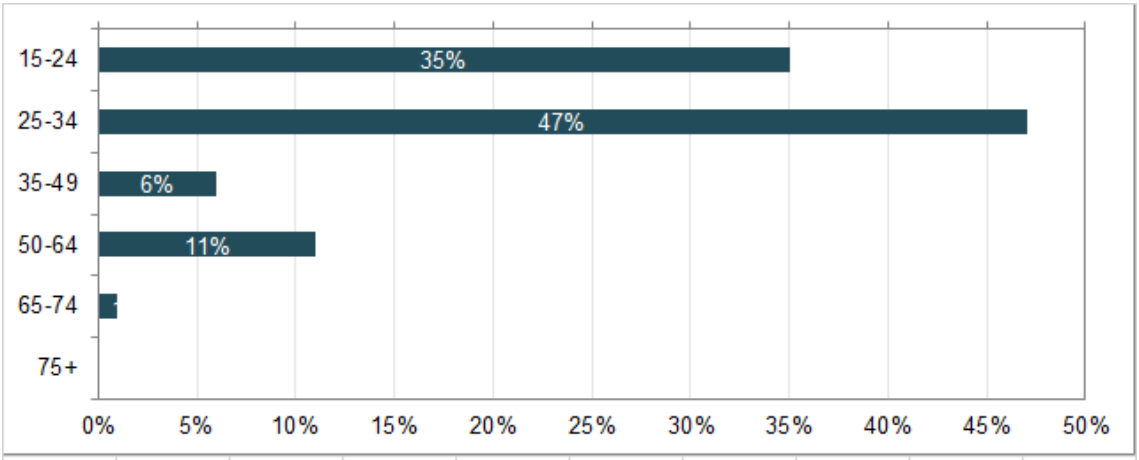
3.3 Results of the survey

A total of 117 responses was received which met the goal of attaining at least 100 responses. The survey gathered responses with varied opinions, which seems to indicate

that the sample size is sufficient for grasping an overall view of the current digital experience.

3.3.1 Demographic profile of the respondents

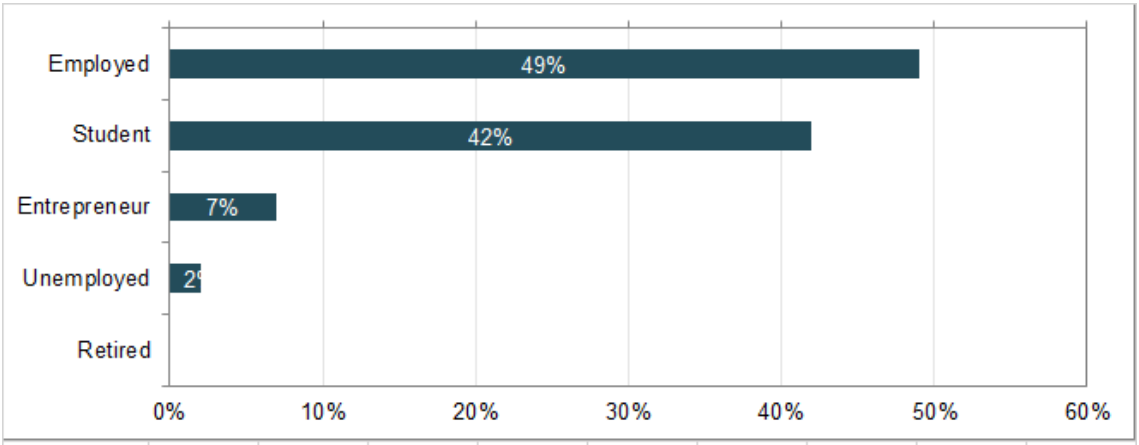
Notably, the male population (54% of respondents) was slightly over-represented. Additionally, the younger age ranges from ages 15 to 34 also covered the vast majority (82%) of the responses which was expected, as the channels that were used were more likely to reach the younger demographic at this time.



age	n	Percent
15-24	41	35 %
25-34	55	47 %
35-49	7	6 %
50-64	13	11 %
65-74	1	1 %

Figure 1. The age range of the respondents

The given age ranges were the same as the Finnish Tax Administration had used on their attitude survey on 2019. Most notably, the age range of over 65 only attained 1 response, which means that the results will unfortunately not be indicative of the situation of elderly people's digital customer experience. The last demographic question was regarding the respondent's current employment/occupation status, with the results showing the majority, 49% being employed, 42% were students, 7% entrepreneurs and only 2% were unemployed. The question did not allow multi responses (i.e. one was not able to answer that he/she is both a student and working), but instead was phrased that the respondent should answer his/her primary occupation.

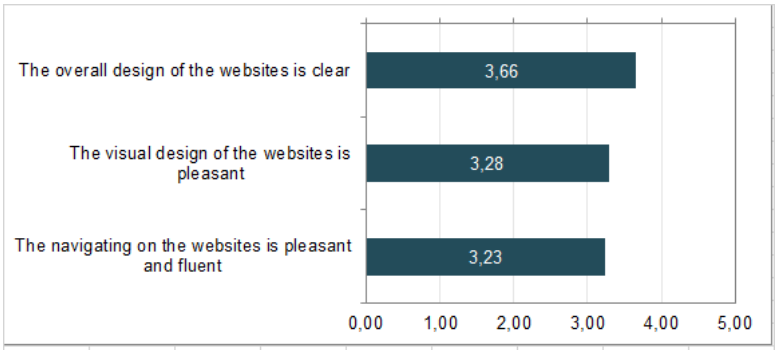


	n	Percent
Employed	57	49 %
Student	49	42 %
Entrepreneur	8	7 %
Unemployed	3	2 %
Retired	0	0 %

Figure 2. The employment/occupation status of the respondents

3.3.2 Results of the Web Design dimension

Overall, the respondents seemed to be quite satisfied with the web design of the Finnish Tax Administration, with the option '4' being by far the most common. On average, approximately 20% of the respondents were not sure (option '3') what they think of the web design, and a calculation excluding these answers was also made to analyse if it would greatly influence the total average, due to the fact that favoured options (i.e. 4) seemed to be more common. The results showed this to not be the case, with the average only increasing from 3,39 to 3,48. The same calculation of excluding the 3's was then performed on the other dimensions too, which provided similar results that the actual average was not greatly influenced. This concluded that in relation, excluding the values of 3 would not be necessary as the sample size would also be reduced in this scenario, thus the calculation was left out from the rest of the dimensions.



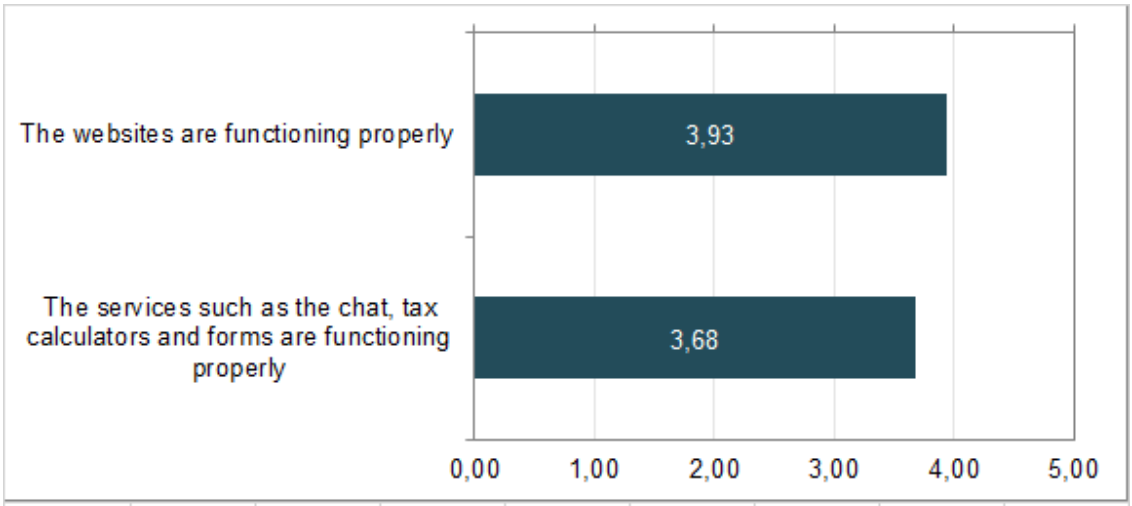
Score	1	2	3	4	5	Average	Median	St. Dev
Clearness	1 %	14 %	17 %	55 %	13 %	3,66	4	0,9
Visuals	4 %	20 %	26 %	43 %	7 %	3,28	3	1
Navigation	6 %	27 %	15 %	43 %	9 %	3,23	4	1,12
					TOTAL	3,39	4	1,026

Answers of '3' removed							
Score	1	2	3	4	5	Average	Total n
Clearness	1	16	n/a	65	15	3,79	97
Visuals	5	23	n/a	50	8	3,38	86
Navigation	7	31	n/a	50	11	3,27	99
Total average without answers of 3: 3,48							

Figure 3. The Web Design dimension results

3.3.3 Results of the Reliability dimension

Issues with the reliability and functioning of the services or the website did not seem to be common, which is pleasant news. From the respondents, 26% answered 'not sure' to the functioning of the services compared to 14% of the website, which seems to indicate that there are a lot of people who have not used the actual services. This also translates to the slightly lower average of the service question's result.

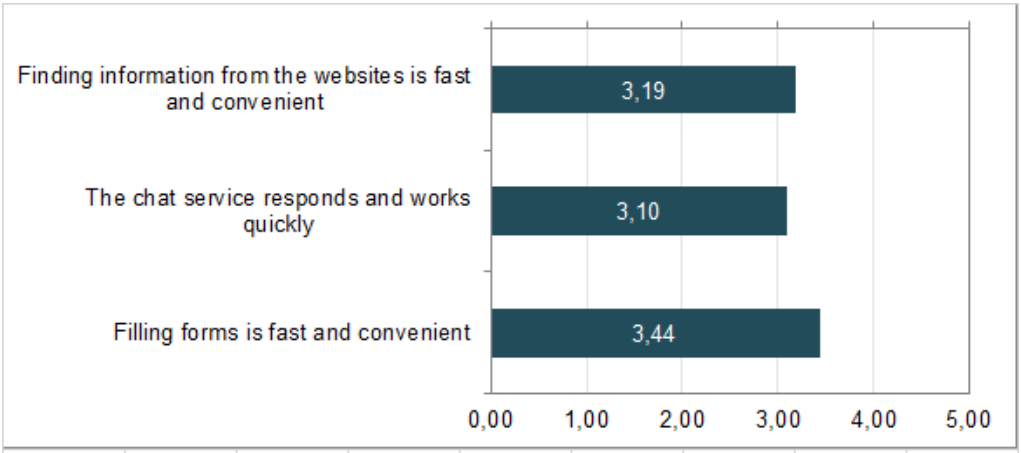


Score	1	2	3	4	5	Average	Median	St. Dev
Websites	0 %	10 %	14 %	49 %	27 %	3,93	4	0,91
Services	2 %	8 %	26 %	48 %	16 %	3,68	4	0,93
					TOTAL	**3,81**	**4**	**0,927**

Figure 4. The Reliability dimension results

3.3.4 Results of the Responsiveness dimension

The reponsiveness dimension gathered a slightly lower score, indicating that a notable amount of the users might have some trouble finding and filling the information they need when using the e-services. The forms had a decently higher responsiveness score, which could mean that the possible problems are more linked to the actual basic functions of the website. Notably, the majority of the respondents (72%) did not seem to have experience using the customer service chat or chatbot. However, this still equates to 32 respondents who had experience in using them, which still gives us some picture of the chat experience overall. Note that one respondent chose not to answer this question, and thus the total sample size was 116 in this dimension.

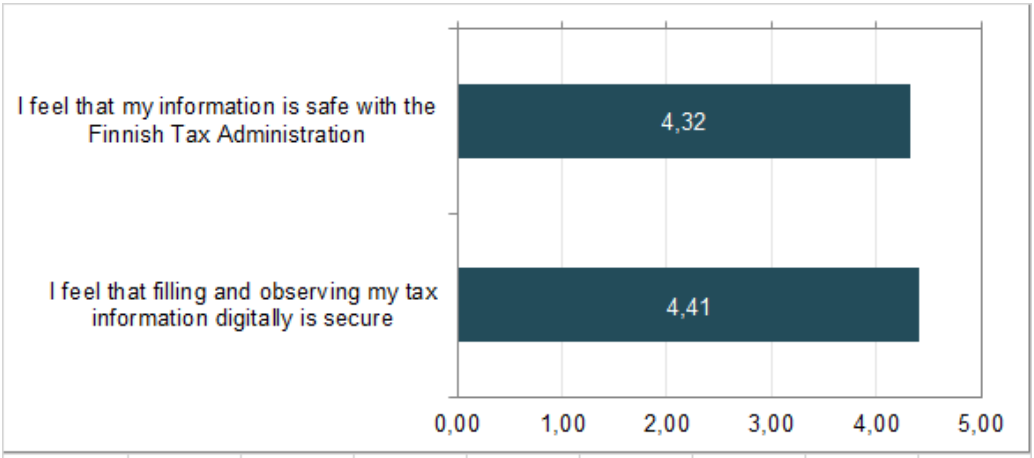


Score	1	2	3	4	5	Average	Median	St. Dev
Information	8 %	20 %	25 %	41 %	7 %	3,19	3	1,08
Chat	2 %	9 %	72 %	12 %	5 %	3,10	3	0,69
Forms	4 %	17 %	20 %	47 %	11 %	3,44	4	1,04
					TOTAL	3,24	3	0,961

Figure 5. The Responsiveness dimension results

3.3.5 Results of the Security / Privacy dimension

The security / privacy dimension obtained by far the highest score, with the median for both questions reaching the value of '5'. It does seem that the Finnish citizens are not generally afraid that the digital services of the Tax Administration could be compromised neither that their information would be misused. This can arguably reflect a high level of overall trust in the Tax Administration. With a total average of 4,37, this dimension unlikely needs too much extra attention in the near future.

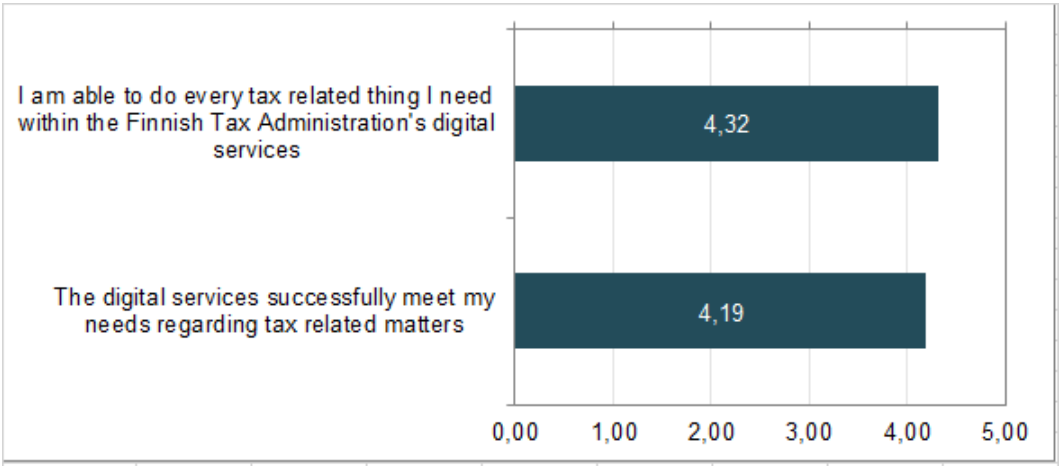


Score	1	2	3	4	5	Average	Median	St. Dev
Info safety	3 %	3 %	10 %	29 %	56 %	4,32	5	0,95
Security	3 %	2 %	7 %	26 %	62 %	4,41	5	0,95
					TOTAL	4,37	5	0,949

Figure 6. The Security / Privacy dimension results

3.3.6 Results of the Personalization dimension

Personalization proved out to be another dimension that obtained a very high score, with its total average of 4,26. With a very high score on both questions of the dimension, the results indicate that the available services seem to be rather complete in their functions, meeting the customers' needs successfully.

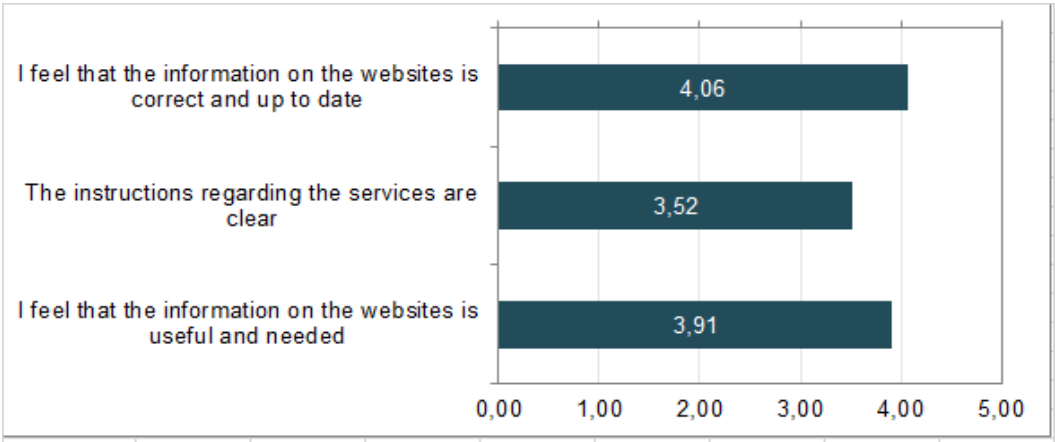


Score	1	2	3	4	5	Average	Median	St. Dev
Ability to do	2 %	7 %	10 %	21 %	61 %	4,32	5	1,02
Needs met	1 %	9 %	11 %	29 %	50 %	4,19	4,5	1
					TOTAL	**4,26**	**5**	**1,01**

Figure 7. The Personalization dimension results

3.3.7 Results of the Information dimension

The information dimension achieved generally good results, with a slight drop appearing on the question regarding if the instructions for using the services are clear. When looking back, the results of the responsiveness dimension also indicated that some users might be having some trouble on finding desired information, which could possibly correlate with the same users finding the instructions unclear at times. Still, half of the respondents gave a 4 for the clearness of the instructions compared to 21% giving 1 or 2, indicating that at least the majority of users are not having too much difficulties. Further analysis in the future might be warranted to determine where exactly in the instructions the possible troubles occur.

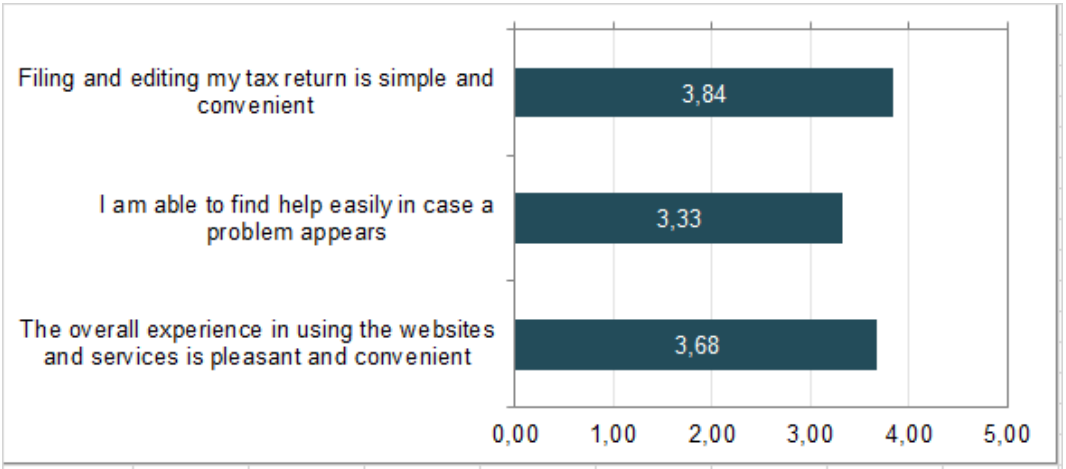


Score	1	2	3	4	5	Average	Median	St. Dev
Quality	0 %	7 %	19 %	36 %	38 %	4,06	4	0,92
Instructions	3 %	18 %	17 %	50 %	13 %	3,52	4	1,01
Usefulness	2 %	5 %	16 %	54 %	22 %	3,91	4	0,86
					TOTAL	3,83	4	0,957

Figure 8. The information dimension results

3.3.8 Results of the Ease of Use dimension

The large majority (67%) of the respondents slightly or strongly agreed that filing their tax return is convenient in the web. This is very good news, as that is arguably the most important digital service that the Finnish Tax Administration is offering. The total average of 3,62 shows that the ease of use seems to be in a good spot, with the highlighted 'negative' appearing on the 'finding help' question, which again reflects the same tone as some of the results of the previous dimensions.



Score	1	2	3	4	5	Average	Median	St. Dev
Tax return	4 %	9 %	20 %	32 %	35 %	3,84	4	1,14
Help	3 %	22 %	29 %	30 %	16 %	3,33	3	1,09
Experience	3 %	14 %	13 %	51 %	19 %	3,68	4	1,04
					TOTAL	3,62	4	1,108

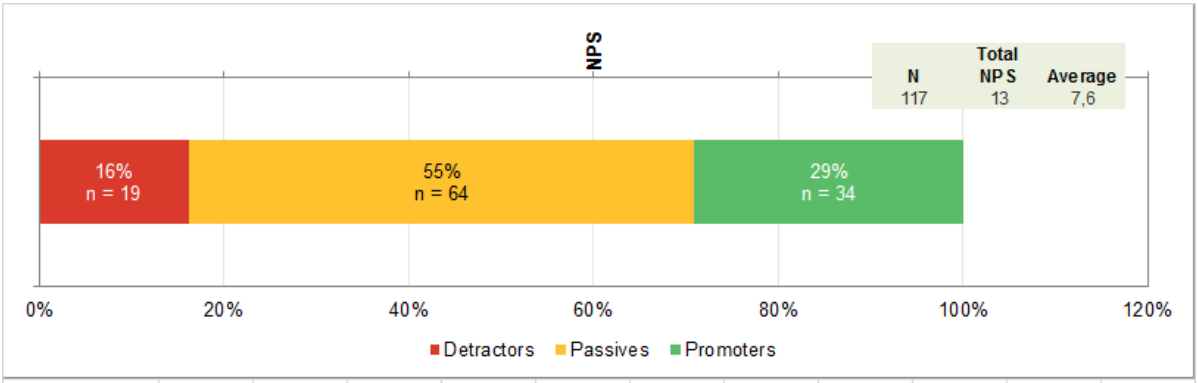
Figure 9. The Ease of Use dimension results

3.3.9 NPS of the Digital Customer Experience

Finally, the respondents were asked to give an overall score ranging from 0 to 10 of their digital customer experience with the Finnish Tax Administration. This value was used to calculate a Net Promoter Score (NPS), resulting to an NPS of 13, which is good by common standards, even though it also displays that there is room for improvement. According to websites such as hubspot.com and netpromoter.com, Net Promoter Score is a common customer satisfaction benchmark, which measures how likely the customers are to recommend your services to a friend. Bernazzani (2019) also clarifies how NPS is not just customer satisfaction metric but reflects the whole perception about the brand of the organization itself. As discussed on chapter 2.1, customer experience commonly revolves around the same themes as brand image and the overall perception, which is why the NPS score was also included in the survey.

From the answers ranging from 0 to 10, the standard NPS scale identifies the customers who respond anything from 0 to 6 as 'Detractors', from 7 to 8 as 'Passives' and 9 to 10 as 'Promoters', with the latter being where an organization should want most of their customers to be identified. The NPS score itself is calculated by disregarding the Passives, and then subtracting the percentage of Detractors from the percentage of Promoters. In the case of this survey the calculation thus resulted to the following:

29% - 16% = 13% = NPS of 13



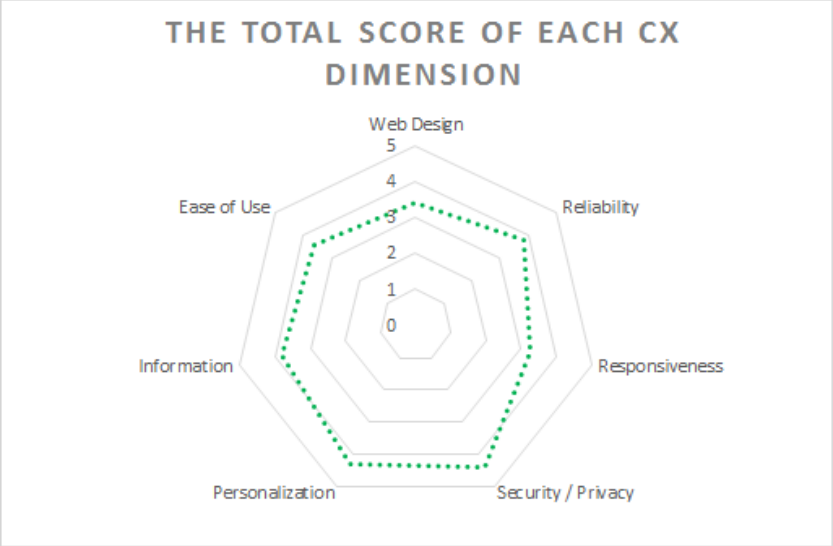
	Detractors							Passives		Promoters	
Score	0	1	2	3	4	5	6	7	8	9	10
Responses	0	1	2	1	2	3	10	23	41	30	4
% of responses	*0 %*	*0,9 %*	*1,7 %*	*0,9 %*	*1,7 %*	*2,6 %*	*8,6 %*	*19,7 %*	*35,0 %*	*25,6 %*	*3,4 %*

Figure 10. The NPS results

The colours in the figure indicate the value of each group to the final NPS score, with Detractors being marked red as they are bad for the overall score, the yellow of Passives indicating their neutrality, and the green of the Promoters highlighting their positive effect. The average of the scores was also counted next to the NPS on the figure to show the potential to improve in more traditional terms. This turned out to be 7.6 out of 10. Proposing the NPS question last after the user had already perceived what the digital customer experience consists of through the other questions, potentially influenced the metric. However, the influence was arguably positive for the accuracy of the NPS, as the answers were likely to reflect more thorough and realistic impressions after processing the content of the other questions.

This thesis is not going to dwell too deep into the NPS as a concept due to the limited scope. It is included due to being a common metric in the service experience context, thus having relevance in analyzing digital customer experience, as well as being potentially useful for future research purposes.

3.4 Summary of the survey



Dimension	Score
Web Design	3,39
Reliability	3,81
Responsiveness	3,24
Security / Privacy	4,37
Personalization	4,26
Information	3,83
Ease of Use	3,62
Average	**3,79**
Median	**3,81**
Standard Deviation	***0,42***

Figure 11. Summary of the total score of each dimension *(the 2 lowest, the 2 highest and the total average highlighted)*

The total score averaging out of all the seven dimensions came out at 3,79. This score does seem to indicate that in general, the digital customer experience and service quality are at a reasonable level. However, as discussed on the results, certain factors regarding information, possible inconvenience and help seemed to gain more negative scores than the other metrics. Surprisingly, the web design gained the second lowest score overall, indicating that the visual look and navigation of the websites are not very favored in the eyes of all users.

In addition, some free-form feedback was received from the respondents through the social media channels, with the overall feedback being very positive and several people highlighting that this is an important and relevant topic to research.

4 Conclusions

It is notable, that customer experience, especially digital CX, is a highly complex topic with no clear 'right' definition or approach according to academic literature. This paper has taken an approach that was seen to be appropriate regarding the organization's special attributes. It was found that in general customer experience goes very hand in hand with service quality, which seems to be even more highlighted in e-services, as the customer has limited physical experience. This means that in most customer journeys, neither positive nor negative customer service has as much effect on the actual perception, as the customer is likely to often avoid direct contact even with the digital customer service. This statement is also justified by the finding that only a minority of people seem to have experience with the customer service chat. This paper proposes that the suggested way to measure digital customer experience for the Finnish Tax Administration would be through a research method such as a survey or interviews, with the focus set on certain dimensions that have an effect on the perceived customer journey.

This paper has found and proposed seven dimensions to measure e-government customer experience, with also testing them in practice. The proposed dimensions seemed to be able to identify areas which were lacking in the customers' eyes, which is reflected by the lower score that some dimensions obtained through the survey. This can potentially enable improvements to be allocated in the correct areas of the digital services, without wasting resources on areas like Security / Privacy for example, which already seem to serve the customer experience exceptionally according to the results.

These dimensions are a viable option to start with when considering the measurement of customer experience and are flexible to be improved on if necessary.

4.1 Limitations

As for the limitations of the research, if the definition of customer experience was set in a very different way, obviously a different approach entirely could have taken place. The key limitation of this research is that it is highly exclusive to only 'non-profit' and government facilitated organizations, with no direct applicability for traditional business contexts. The research on especially e-government services is still very limited, and the area will likely be improved in the near future.

On the survey itself, the lack of elderly people's responses has to be taken into consideration when reviewing the results. With 82% of the respondents being in the age range of 15 to 34, there is a clear potential bias on the results of the survey. Without further research including a larger variety of age ranges, the sample in this thesis cannot be considered representative of the population, which in this case is almost the entire population of Finland. Therefore, the third characteristic of survey research which was presented on chapter 3.1, is not successfully fulfilled in this thesis. The weakness of a survey presented by Glasow (2005) thus proved out to be realistic. There is a chance that if the division between different age groups would be more even out, the results of each dimension could alter decisively. The sample size of 117 is also likely somewhat limited, when in this case the Finnish Tax Administration essentially has over 5 million customers.

Additionally, some citizens only use the digital services of the Finnish Tax Administration only once a year, which might play a key role on their perception. To address and analyze this, the survey could possibly have had a question regarding the respondent's last time using the e-services of the Finnish Tax Administration, i.e. was the last interaction recently, over 6 months ago or over a year ago.

4.2 Future research

For future research purposes, it needs to be considered that the selected seven dimensions are unlikely to be perfect and could be customized even more with additional insights from both this research and opinions from the customer service and

service design specialists of the Finnish Tax Administration. As also discussed, there is certainly some overlap between the dimensions when adapting them to the Finnish Tax Administration's purposes. Possible things to consider would be if for example, the Responsiveness and Reliability dimensions could be merged into one dimension, possibly called Functionality.

Due to the rather limited scope of a Bachelor's Thesis, more extensive and in-depth research is certainly warranted for the subject. To fully understand the perceived digital customer experience of the Finnish Tax Administration's customers, more qualitative methods such as focus group interviews or individual interviews would likely provide valuable insights. Additional research questions for future research could include; 'How to improve the user experience of the Finnish Tax Administration's digital services', 'How to enhance the NPS of the Finnish Tax Administration's e-services' or even 'How to improve the Web Design of the Finnish Tax Administration', as web design was found to be a topic that is covered extensively in the academic literature and also seemed to have potential for improvement in the case of the Finnish Tax Administration. It is also possible to continue this subject to conduct a more in-depth research as a Master's Thesis.

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Appendices

Appendix A: The survey (page 1/3)

Verohallinto, Digitaalinen asiakaskokemus

1. Vastaajan ikä

- ◯ 15-24
- ◯ 25-34
- ◯ 34-49
- ◯ 50-64
- ◯ 65-74
- ◯ 75+

2. Vastaajan sukupuoli

- ◯ Mies
- ◯ Nainen
- ◯ Muu/En halua kertoa

3. Olen päätoimisesti...

- ◯ Palkkatyössä
- ◯ Opiskelija
- ◯ Yrittäjä
- ◯ Työtön
- ◯ Eläkkeellä

4. Verohallinnon internet-sivujen (vero.fi, omavero.fi) design
(1 = Täysin eri mieltä, 2 = Jokseenkin eri mieltä, 3 = En osaa sanoa, 4 = Jokseenkin samaa mieltä, 5 = Täysin samaa mieltä)

	1	2	3	4	5
Internet-sivut ovat yleisilmeeltään selkeitä	◯	◯	◯	◯	◯
Internet-sivujen visuaalinen ilme on miellyttävä	◯	◯	◯	◯	◯

Appendix B: The survey (page 2/3)

	1	2	3	4	5
Internet-sivujen navigointi on miellyttävää ja sujuvaa	◯	◯	◯	◯	◯

5. Verohallinnon internet-palveluiden toimivuus
(1 = Täysin eri mieltä, 2 = Jokseenkin eri mieltä, 3 = En osaa sanoa, 4 = Jokseenkin samaa mieltä, 5 = Täysin samaa mieltä)

	1	2	3	4	5
Internet-sivut toimivat moitteettomasti	◯	◯	◯	◯	◯
Palvelut, kuten asiakaspalvelu chat, verolaskurit ja lomakkeet toimivat moitteetomasti	◯	◯	◯	◯	◯

6. Verohallinnon internet-palveluiden vaste ja nopeus
(1 = Täysin eri mieltä, 2 = Jokseenkin eri mieltä, 3 = En osaa sanoa, 4 = Jokseenkin samaa mieltä, 5 = Täysin samaa mieltä)

	1	2	3	4	5
Internet-sivuilta informaation etsiminen on nopeaa ja vaivatonta	◯	◯	◯	◯	◯
Chat palvelu vastaa ja toimii nopeasti	◯	◯	◯	◯	◯
Lomakkeiden täyttö on nopeaa ja vaivatonta	◯	◯	◯	◯	◯

7. Verohallinnon internet-palveluiden turvallisuus
(1 = Täysin eri mieltä, 2 = Jokseenkin eri mieltä, 3 = En osaa sanoa, 4 = Jokseenkin samaa mieltä, 5 = Täysin samaa mieltä)

	1	2	3	4	5
Koen, että tietoni ovat suojassa verohallinnolla	◯	◯	◯	◯	◯
Koen verotietojeni selaamisen ja täyttämisen verkossa turvalliseksi	◯	◯	◯	◯	◯

8. Verohallinnon internet-palveluiden henkilökohtainen soveltuvuus
(1 = Täysin eri mieltä, 2 = Jokseenkin eri mieltä, 3 = En osaa sanoa, 4 = Jokseenkin samaa mieltä,

Appendix C: The survey (page 3/3)

5 = Täysin samaa mieltä)

	1	2	3	4	5
Pystyn hoitamaan verkossa kaikki tarvitsemani veroasiat	○	○	○	○	○
Verkkopalvelut vastaavat onnistuneesti tarpeitani veroasioissa	○	○	○	○	○

9. Verohallinnon internet-palveluiden informaatiotaso
(1 = Täysin eri mieltä, 2 = Jokseenkin eri mieltä, 3 = En osaa sanoa, 4 = Jokseenkin samaa mieltä, 5 = Täysin samaa mieltä)

	1	2	3	4	5
Koen, että tieto internet-sivuilla on oikeaa ja ajantasalla	○	○	○	○	○
Ohjeet palveluiden käytöstä ovat selkeät	○	○	○	○	○
Koen sivuilla saatavilla olevat tiedot hyödylliseksi ja tarpeelliseksi	○	○	○	○	○

10. Verohallinnon internet-palveluiden helppokäyttöisyys
(1 = Täysin eri mieltä, 2 = Jokseenkin eri mieltä, 3 = En osaa sanoa, 4 = Jokseenkin samaa mieltä, 5 = Täysin samaa mieltä)

	1	2	3	4	5
Veroilmoituksen teko ja muokkaaminen netissä on helppoa ja vaivatonta	○	○	○	○	○
Löydän tarvittaessa helposti apua ongelmatilanteissa	○	○	○	○	○
Internet-sivujen ja palveluiden käyttö yleisesti on helppoa ja miellyttävää	○	○	○	○	○

11. Yleinen arvosanani digitaalisesta asioinnista Verohallinnossa (0= huonoin, 10= paras)

0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○